2006/07 Winter Grain Prospects in the Northern Hemisphere Outside the United States

Prepared by the Joint Agricultural Weather Facility

This article summarizes early prospects for Northern Hemisphere winter grains outside the United States based on an assessment of weather and crop conditions from the autumn of 2005 to the present.

Winter Grains Summary: Prospects for 2006/07 winter grains (wheat, barley, and rye) in Northern Hemisphere growing areas outside of the United States vary when compared to conditions recorded this time last year. Across western and southern Europe, conditions are similar to, or slightly better than, those observed affecting the 2005/06 crop, due to improved winter moisture levels in key production areas. In contrast, autumn dryness and a severe winter lowered crop prospects in northeastern Europe, Ukraine, and Russia. Untimely periods of dryness also impacted yield potential from northern Africa (Algeria and Tunisia) through the eastern Mediterranean to Iran, but crop prospects were buoyed by above-normal autumn and winter precipitation in Morocco and Turkey. The Indian wheat crop, which is currently being harvested, will be lower than last year due to unfavorable extremes of both rainfall and temperatures. In China, spring dryness stressed rainfed reproductive winter wheat even though crops began the season in excellent condition. Conditions were generally favorable for overwintering crops across Canada, as mild January weather reduced the potential for winterkill in Ontario and most minor production areas of the Prairies. In Mexico, an intensifying drought maintained high irrigation demands in most major agricultural areas. This contrasts with last season, when above-normal winter rainfall led to a build up of reservoir levels in Mexico's northwestern wheat areas.

European Union: Prospects for winter grains are slightly better than last year across the European Union (EU-25), with considerable yield gains in western growing areas partially offset by reductions in Poland and the Baltics. Across central France and the Iberian Peninsula, abundant winter rain and snow was in sharp contrast to last year's drought, greatly improving winter grain yield prospects. In England, southeastern growing areas were plagued with persistent dryness for the second consecutive year. As a result, prospects for winter grains are largely unchanged from last year. Autumn dryness overspread northern Europe, with significant precipitation deficits noted in Poland and the Baltics, while pockets of dryness developed in northern France and southern Germany.

During the winter, favorably wet conditions developed across much of central and eastern Europe, boosting winter grain prospects from central France eastward into Hungary and the Czech Republic. However, dry weather persisted in the Baltics and northeastern Poland, further depleting moisture reserves for dormant winter grains. The threat from potential winterkill was minimized due to a deep snowpack during the periods of coldest weather (January 17-24 and March 9-18, 2006). One exception, however, was in Hungary, where temperatures as low as -19 degrees C during the fourth week of January, coupled with little or no snow cover, may have caused damage to exposed winter grains.

In March and April, wet weather returned to much of north-central Europe, alleviating drought concerns and providing a late boost to winter grain prospects. Unfortunately, dryness worsened across Poland and the Baltics, further reducing winter grain prospects. Drier-than-normal conditions also returned to much of northern France and northern Spain (Figure 1) during April, although the recent dryness promoted winter grain development after abundant to excessive rainfall in March. In early May, dry weather across northeastern Europe exacerbated topsoil moisture shortages and resulted in deteriorating crop conditions.

Southeastern Europe: Across the Balkans, prospects for winter grains are similar to last year. Near- to above-normal autumn rainfall maintained adequate to abundant moisture for winter grain planting, although locally heavy rain extended planting beyond optimum dates in the Danube River Valley. Seasonable temperatures and near-to above-normal precipitation provided a protective snow cover for most of the winter. However, bitterly cold air (temperatures less than -20 degrees C) settled into the

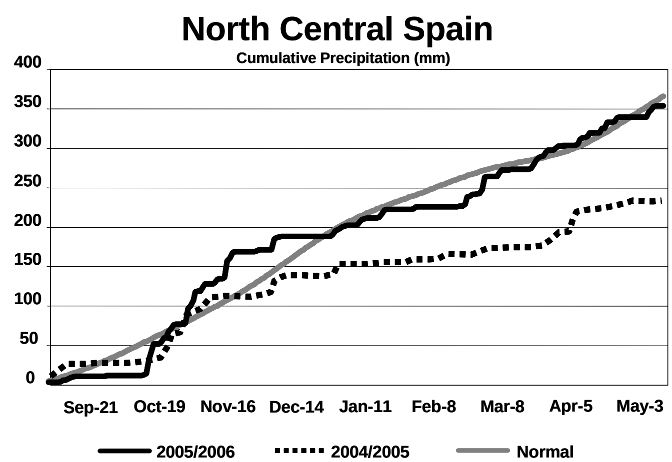

Figure 1. Beneficial rains in north-central Spain contrasted with drought conditions last year.

Balkans in late January, exposing winter grains in snow-free areas of southern Romania and northern Bulgaria to potential winterkill. Winter crops broke dormancy in mid- to late March, slightly behind the long-term average. Above-normal rainfall in April maintained adequate to excessive soil moisture in these areas, with widespread flooding reported in the Danube River Valley in recent weeks.

Ukraine: Prospects for winter grains are worse than last year, mostly due to persistent dryness during planting last fall. As seen in Figure 2, the driest weather in at least the past 28 years prevailed throughout Ukraine in September, hampering winter grain planting and establishment. The dryness in September delayed planting beyond the optimal time and caused a reduction in acreage planted to winter wheat compared to the previous year. In many areas, crop emergence was likely delayed until the middle of October, when a change in the weather pattern brought widespread showers to many areas.

The wet weather pattern continued through November, and was accompanied by near- to above-normal

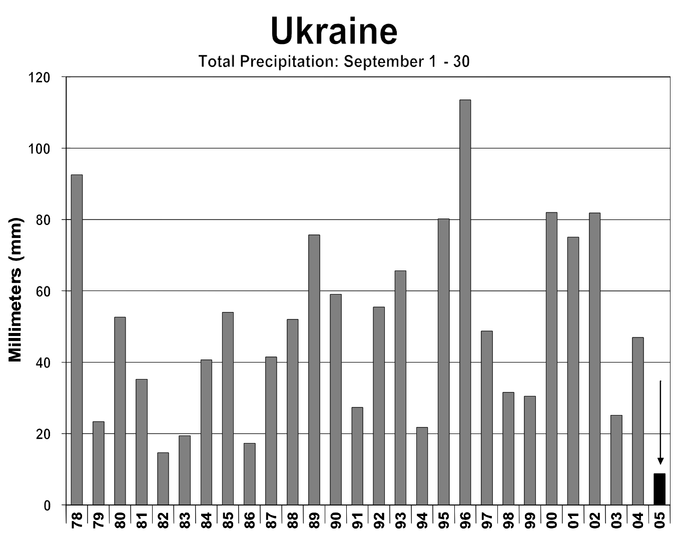

Figure 2: Total September precipitation (millimeters) in Ukraine from 1978 to 2005.

temperatures, improving conditions for winter grain emergence and establishment. Crops entered dormancy during the second half of November, about 1 to 3 weeks later than usual. Unusually mild weather provided favorable overwintering conditions for crops in December. In January, bitterly cold weather began overspreading the country on January 19. Simultaneously, a storm system spread light to moderate snow across these areas, providing a highly variable snow cover. Winter grains likely sustained some freeze damage in areas that lacked a sufficient snow cover. In March, snow accompanied unseasonably cold weather during the first half of the month, maintaining an unusually late snow cover. In April, a warming trend prompted winter grains to break dormancy about 1 week later than usual. In early May, cool, showery weather favored winter grains in most areas.

Russia: Prospects for winter grains are worse than last year, due to insufficient planting moisture followed by a severe cold wave in January. Last autumn, persistent dryness created unfavorable conditions for winter grain emergence and establishment in many areas. Planting likely occurred beyond optimum dates, as farmers waited for rain to improve emergence prospects. Furthermore, in partial response to the unusual dryness, less acreage was planted to winter wheat and rye compared to the previous year. In October and November, wet weather and near- to above-normal temperatures improved conditions for winter grain establishment, especially in the Southern District, where crops usually enter dormancy later in the fall than areas farther north. Furthermore, winter grains in the Southern District entered dormancy during the second half of November, 1 to 3 weeks later than usual. In December, unseasonably mild weather provided favorable overwintering conditions for winter grains in most areas.

In January, frigid air from Siberia pushed westward into winter grain areas of Russia during the second half of the month, threatening winter grains. During the initial onset of the bitter cold from January 17-20, snow cover was shallow in the western and southern parts of the Central Region, and in an area that extended from the northern portion of the Southern District northward into parts of the Volga District. Consequently winter grains, mostly winter rye, were highly vulnerable to the extreme cold. Lowest temperatures reported during the cold wave ranged from -41 to -20 degrees C. Winter grains likely sustained some freeze damage in areas that lacked sufficient snow cover. In March, unseasonably mild weather prevailed throughout the Southern District, melting snow cover and prompting greening of winter grains at near-normal dates. Winter grains in northern Russia continued to overwinter under a moderate to deep snow cover. In April, a warming trend melted the snow cover in northern Russia and prompted greening in winter grains, at near-normal dates. In early May, widespread showers favored jointing winter grains in the Southern District, although unseasonably cool weather slowed crop growth.

Northwestern Africa: Widespread rain, along with near- to below-normal temperatures, improved winter grain prospects in Morocco, Algeria, and Tunisia. All three countries received near- to above-normal rainfall in November, boosting topsoil moisture reserves for winter grain planting. In Morocco (Figure 3) and western Algeria, heavy rain during the winter growing season was in sharp contrast to last year's persistent dryness, signaling improved yields for winter wheat and barley. However, untimely dryness in March and early April occurred as winter wheat entered the moisture-sensitive reproductive phase, likely cutting back on potentially record-setting yields.

Locally heavy rain returned to Morocco and Algeria in late April and early May as grains matured, further compounding late-season yield reductions. Nonetheless, winter grain prospects in Morocco are much improved

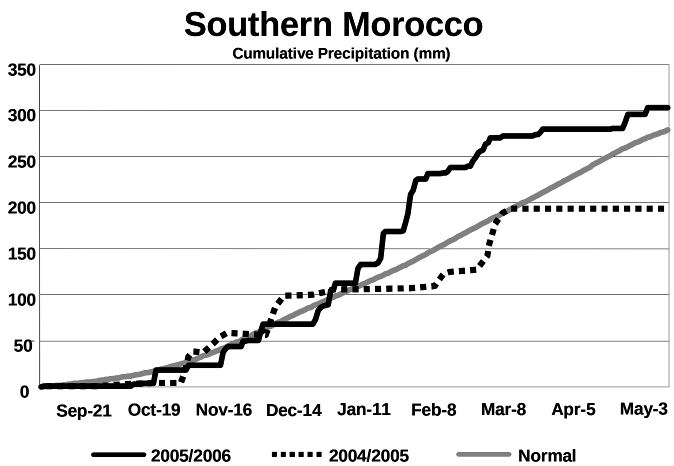

Figure 3. Despite untimely spring dryness, 2006/07 winter grains outperformed last season due to the wet winter.

over last year's heat and drought afflicted crop. Farther east, favorable fall and early-winter moisture for winter grain establishment was followed by drier-than-normal conditions across eastern Algeria and northern Tunisia during the second half of the winter. Rainfall in eastern growing areas tapered off in late February, reducing moisture for reproductive winter grains. However, abundant early-season rainfall prevented significant declines in crop yield potential. Here too, heavy rain returned late in the growing season (April and early May). Late-maturing winter grains in eastern Algeria and Tunisia likely benefited from the enhanced moisture; conversely, winter wheat that had reached maturity was likely adversely impacted. Much of the region experienced below normal temperatures during the growing season, minimizing the threat of heat-related damage.

Middle East: Timely precipitation maintained favorable prospects for winter grains across Turkey, while early-season dryness in eastern Mediterranean growing areas likely reduced crop yields. In Turkey, above-normal autumn precipitation slowed fieldwork but provided ample topsoil moisture for crop establishment. Near- to above-normal winter precipitation further boosted irrigation supplies and maintained favorable moisture conditions for overwintering crops. In addition, above-normal temperatures persisted during much of the winter which, coupled with sufficient snow cover, reduced the risk of winterkill. In contrast, autumn dryness slowed planting and crop emergence from central Syria eastward into Iran. By late winter, locally heavy rain returned to Syria, Iraq (as detected in satellite data), and northwestern Iran, boosting moisture for vegetative to reproductive winter grains. Nevertheless, Iran's winter grain yields are likely slightly less than last year's record levels due to sporadic early-season precipitation, above-normal temperatures, and potential freeze damage in Kordestan (west-central Iran) in late January. Wetter-than-normal conditions overspread much of the Middle East during March and April, maintaining adequate topsoil moisture for vegetative (northern areas) to reproductive (southern areas) winter grains and improving prospects for late-maturing crops.

India: Prospects for the wheat crop are worse than last year due to unfavorably dry, hot winter weather that reduced soil moisture for crop establishment and depleted irrigation supplies during the growing season. In early autumn, adequate to excessive monsoon rain slowed fieldwork but provided moisture for fall planting and germination across the region. During the winter, however, hot, dry weather reduced topsoil moisture for vegetative to reproductive winter grains. In early March, locally heavy rain in Punjab, Haryana, and western Uttar Pradesh caused some lodging of mature winter grains, but impacts were generally minimal. Harvest typically occurs from April to June.

China: Record September rainfall on the North China Plain provided abundant soil moisture for winter wheat planting and establishment (Figure 4). Warm weather advanced wheat development through the fall. A sudden cold snap in December forced wheat into dormancy and likely burned back some vegetation. Winter temperatures dipped to near -15 degrees C with little snow cover. However, winter wheat was well hardened and likely avoided widespread winterkill. A brief spell of warm weather in February caused wheat to break dormancy early. By April wheat had become reproductive

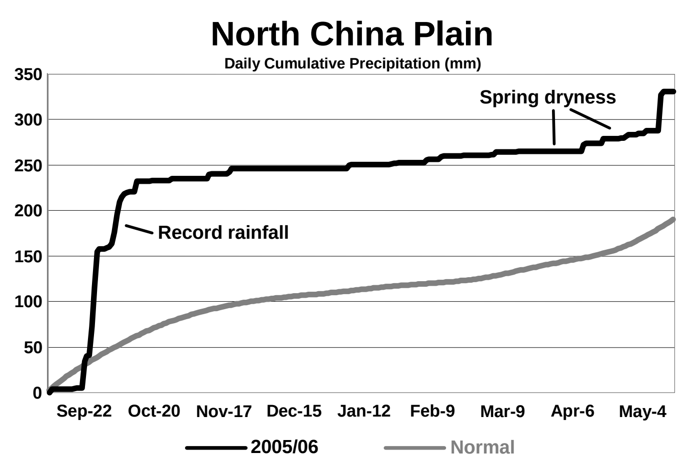

Figure 4. Seasonal rainfall for the North China Plain, China's main winter wheat area.

throughout most areas, and a lack of significant spring rainfall stressed the small portion of winter wheat that is rainfed. Winter wheat harvesting begins at the end of May in the south and continues through mid-June.

Canada: Unseasonably mild weather favored overwintering wheat in most major production areas of eastern Canada. January, which is typically the coldest month of the year, was one of the warmest on record, with average temperatures at the highest levels since 2002. Several cold snaps in December, and again in late-February and early-March, drove temperatures down to the threshold for winterkill (-20 to -15 degrees C), but, as depicted in Figure 5, the presence of a protective layer of snow cover and the short durations of the cold outbreaks helped to mitigate the potential impact on dormant wheat. According to Ontario's Ministry of Agriculture, Food, and Rural Affairs, winterkill is projected to be less than 2 percent across the province.

On the Prairies, autumn moisture levels favored the establishment of winter wheat, which accounts for a small portion of Canada's total grain production. As in eastern Canada, winter temperatures averaged above normal, although several outbreaks of bitter cold (temperatures at or below -25 degrees C) occurred in December and February. The patchy nature of the snow cover in Alberta

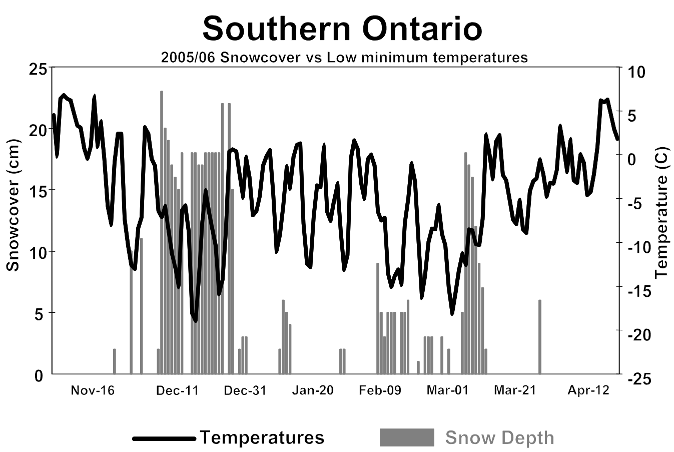

Figure 5. Snow depth compared with low temperatures, representative of the main winter wheat areas of eastern Canada (Source: Environment Canada).

increased the potential for winterkill during these events. In April, mild, showery weather promoted greening of winter grains and pastures and helped to condition fields for planting of spring grains and oilseeds. However, the combination of locally heavy rain and snow melt resulted in some lowland flooding in eastern Saskatchewan and Manitoba.

Mexico: In contrast to last season, the winter of 2005/06 was much drier than usual throughout major winter grain areas of northern and central Mexico. As a result, reservoir levels, which rose during the previous wet winter, dropped with usage in major winter wheat areas of the northwest (see Figure 6). According to the Agricultural Secretariat of Mexico (SAGARPA), 98 percent of Mexico's winter wheat is irrigated, and production is generally concentrated from the northern Baja California and Sonora to Guanajuato. In addition, about 21 percent of Mexico's corn is grown over the winter, 85 percent of which is irrigated. Most rainfed winter corn is located in the south (Guerrero, Oaxaca, and Chiapas), where a wet autumn gradually gave way to dry winter weather beginning in October.

Thirty seven percent of Mexico's sorghum is winter-grown, but just over 20 percent is irrigated, with a large percentage of the crop grown in Tamaulipas. An increase in showers during April in northeastern Mexico benefited immature sorghum, but below-normal winter rainfall otherwise limited moisture for normal development.

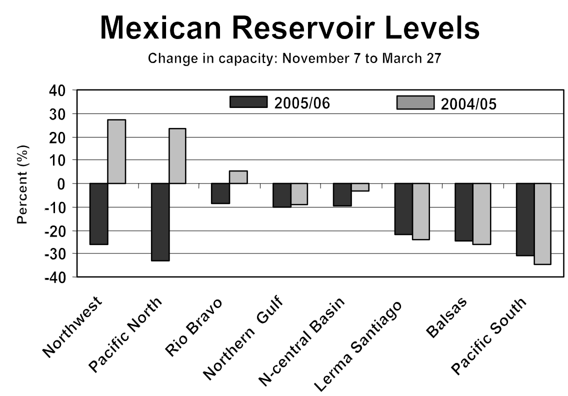

Figure 6. Dry weather resulted in declining reservoir levels in the Northwest (Sonora) and Pacific North (Sinaloa) irrigation regions, contrasting with last year, when wet weather resulted in a net increase of irrigation reserves (SOURCE: SAGARPA).

As of April 10, reservoirs were mostly lower than last year's levels, and according to the *North American Drought Monitor*, most major growing areas were experiencing some level of drought.